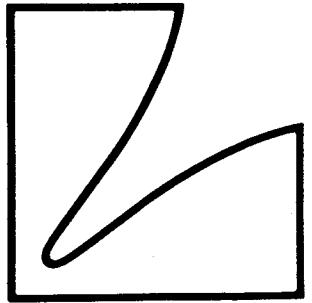


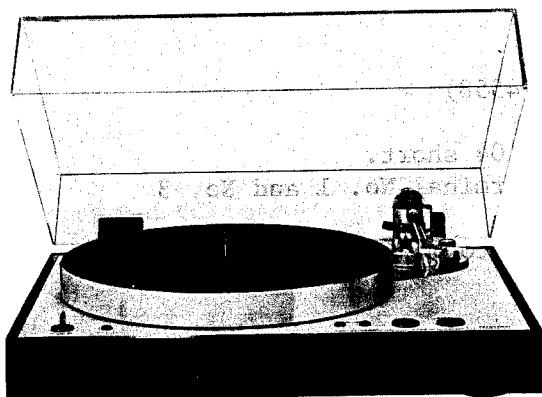
# SERVICE MANUAL



QUARTZ AUTOMATIC  
TURNTABLE

**PD291 / PX100**

PD291



PX100

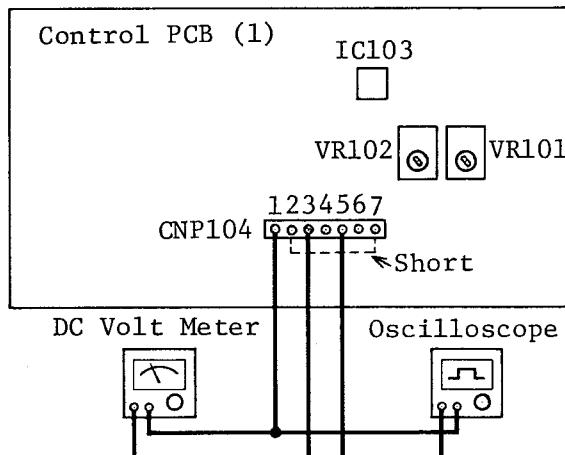


PX100 / PD291

# Contents

Alignment Procedure.....	1,2
Trouble Shooting.....	3
Packing Material Parts List.....	4
Exploded View Parts List.....	5,6
Control PCB (1) Parts List.....	7,8
Control PCB (2) Parts List.....	9
Control PCB (3) Parts List.....	9
Control PCB (4) Parts List.....	9
Control PCB (5) Parts List.....	9
Control PCB (6) Parts List.....	9
Control PCB (7) Parts List.....	10
Control PCB (8) Parts List.....	10
Destination's Parts List.....	10
IC (MP1001) Handling Guide.....	11,12
Wiring Diagram.....	13,14
Schematic Diagram.....	15,16
Motor Circuit.....	17
Specifications.....	18

## Alignment Procedure



### (1) VR101 : DC Offset Adjustment on IC103 (4558)

1. Make Terminal No. 2 and No. 7 of CNP104 short.
2. Connect a DC volt meter in between Terminal No. 1 and No. 3 of CNP104
3. Adjust the semi-fixed resistor, VR101 to make the DC volt meter read the value within +100mV.

### (2) VR102 : Tone-Arm Speed Adjustment

1. Connect an oscilloscope in between Terminal No. 1 and No. 5 of CNP104.
2. Adjust the semi-fixed resistor, VR102 to make a wave form of the oscilloscope 2.7 to 5.5 sec.

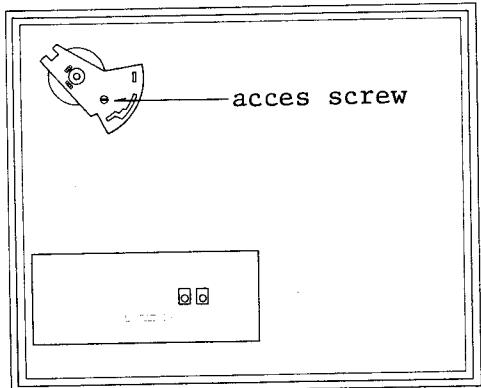
# Alignment Procedure

When an alignment is made on the lead-in position for a 30cm/33rpm disc, the lead-out position can be automatically fixed, too. In addition, both of the lead-in and lead out positions for a 17cm/45rpm disc can be adjusted at the same time.

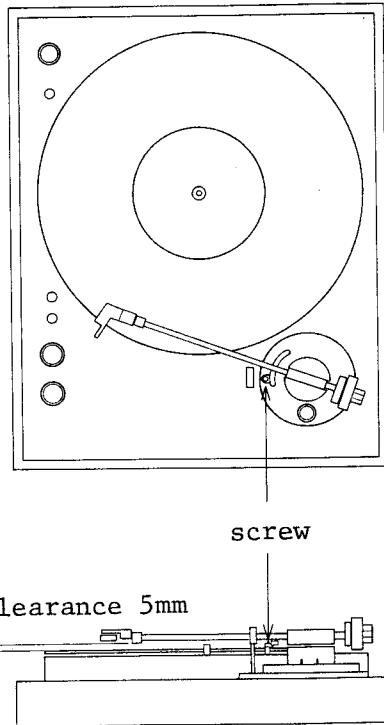
## AUTOMATIC LEAD-IN ADJUSTMENT

(Fig. 1)

Adjustment of the lead-in position is possible by means of the lead-in alignment screw on the arm-feeding assembly accessible from the bottom plate. Turn the access screw in the clockwise direction, and the sensing point for the arm descent shifts outward, while a counter-clockwise turn moves the point inward.



---Fig. 1---



---Fig. 2---

## ADJUSTMENT OF STYLUS HEIGHT

(Fig. 2)

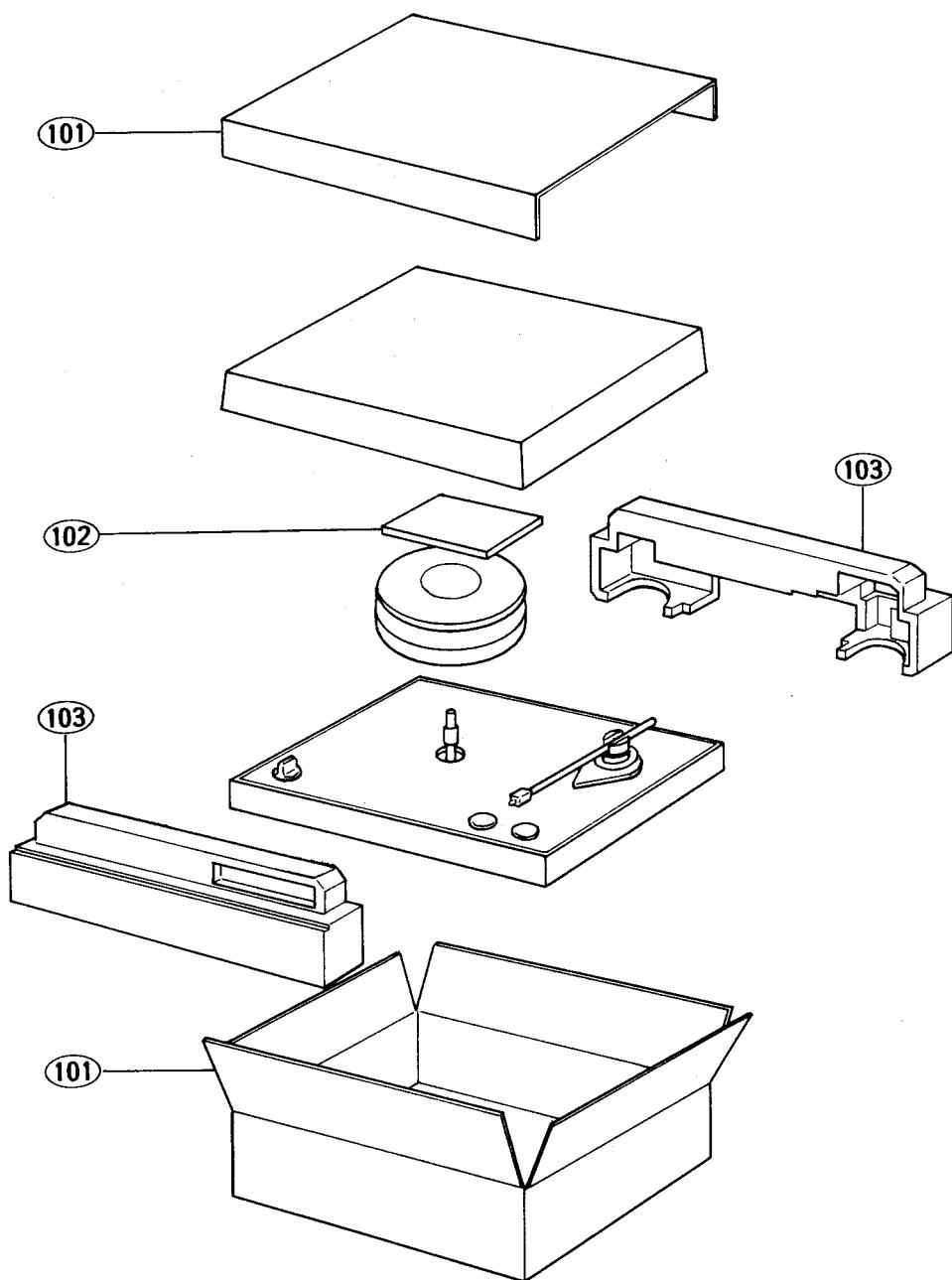
Place a disc on the platter and bring the tone-arm above the disc. The desired clearance is 5mm between the stylus tip and the disc surface. If necessary, turn the screw on the cueing platform in the clockwise direction to increase the clearance.

Your turn table features the automatic mechanism. In case an adequate clearance is not procured between the stylus and disc, the tone-arm may not return to the correct position of the arm-rest, thereby damaging the stylus tip. Check this point carefully after the PD-291 (PX-100) is hooked up and made operational. Push the "up/down" button again. Return the tone-arm to the arm-rest and clamp it.

# Trouble Shooting

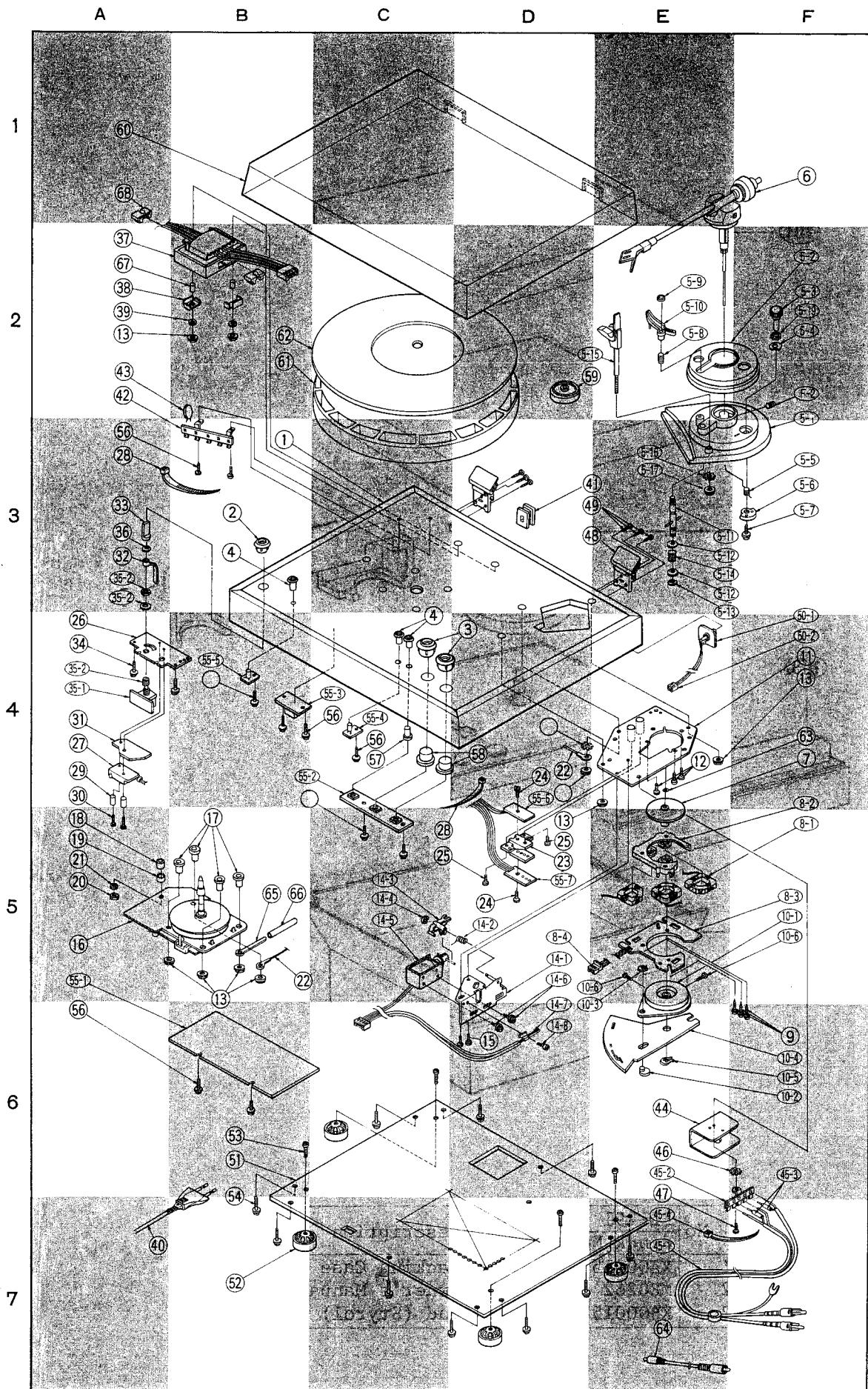
Item No.	Symptoms	Main Cause	Remedy & Check
1	Tone-arm would not return to Arm-rest after power SW as been on.	* No reset differential input arises on Pin 26 of (Micro Computer) IC101. * IC101 would neither oscillate.	* Replace RL32, C110 or D105, or check either of these are properly soldered. * Replace L101, or C109, or check either of these are properly soldered.
2	D.D. motor rotates while Tone-arm is on Arm-rest.	* Collector of X107 is not low; In case that base of X107 is over 0.6V: In case that base of X107 is below 0.3V:	* Replace X107.  * Replace IC102. * Check a wave form of Pin 21, 22 & 23 of IC101.
3	Tone-arm would not function.	* In case that voltage between Terminal 1 & 2 varies.  * In case that voltage between Terminal 1 & 2 would not vary: Pin 5 of IC103 (4558) would not vary.  Pin 4 of IC102 varies and Pin 3 would not vary.	* Put connector CNP103 into a right position and or replace D.D. tone-arm coil if broken.  * Put connector CNP103 into a right position. * Check Pin 5 of IC102 (See Item 7.)
4	Tone-arm descends unvertically.	* Voltage of over +100mV arises at Output Terminal (Pin 1 ) of IC103.	* Readjust VR101 (See Alignment Procedure) but if no adjustment is possible, replace IC103.
5	Tone-arm would not come down.	* Pin 11 of IC101 is high for about 1 sec. * Pin 11 of IC101 remains low.	* Replace X106. But if X106 is normal, adjust stroke of solenoid * Find "High" among Input Terminals of IC101.
6	Key input would not work.	* Find a Terminal which remains high among Input Terminals of IC101, and if the terminal is found:  or if no terminal is found, no key input is acceptable after cue-down.	* Check the outside circuit of the terminal. * Adjust Up Switch to make it "Low" at cue-down.
7	Tone-arm is kept braked.	* In case that Pin 5 of IC102 is high: * In case that Pin 3 of IC102 varies when Tone-arm arm is manually moved and Pin 5 of IC102 is low:	* Check the outside circuit of the Pin 5. * Replace IC102.
8	Positioning gap on lead-in and return.	* Gap with sector.	* Adjust the biased pin (See alignment procedure.)
9	Tone-arm would not move smoothly.	* Tone-arm descends unvertically. * Input voltage of the transformer is low. * Input voltage of the transformer is normal.	* Readjust VR101 (See Alignment Procedure.)  * Readjust VR102 (See Alignment Procedure.)

## Packing Material Parts List



Symbol No	PD-291	PX-100	Description
	Stock No	Stock No	
101	XAQ0015	XAQ0017	Packing Case
102	ME0262	ME0265	Owner's Manual
103	XBQ0015	XBQ0015	Pad (Styrol)

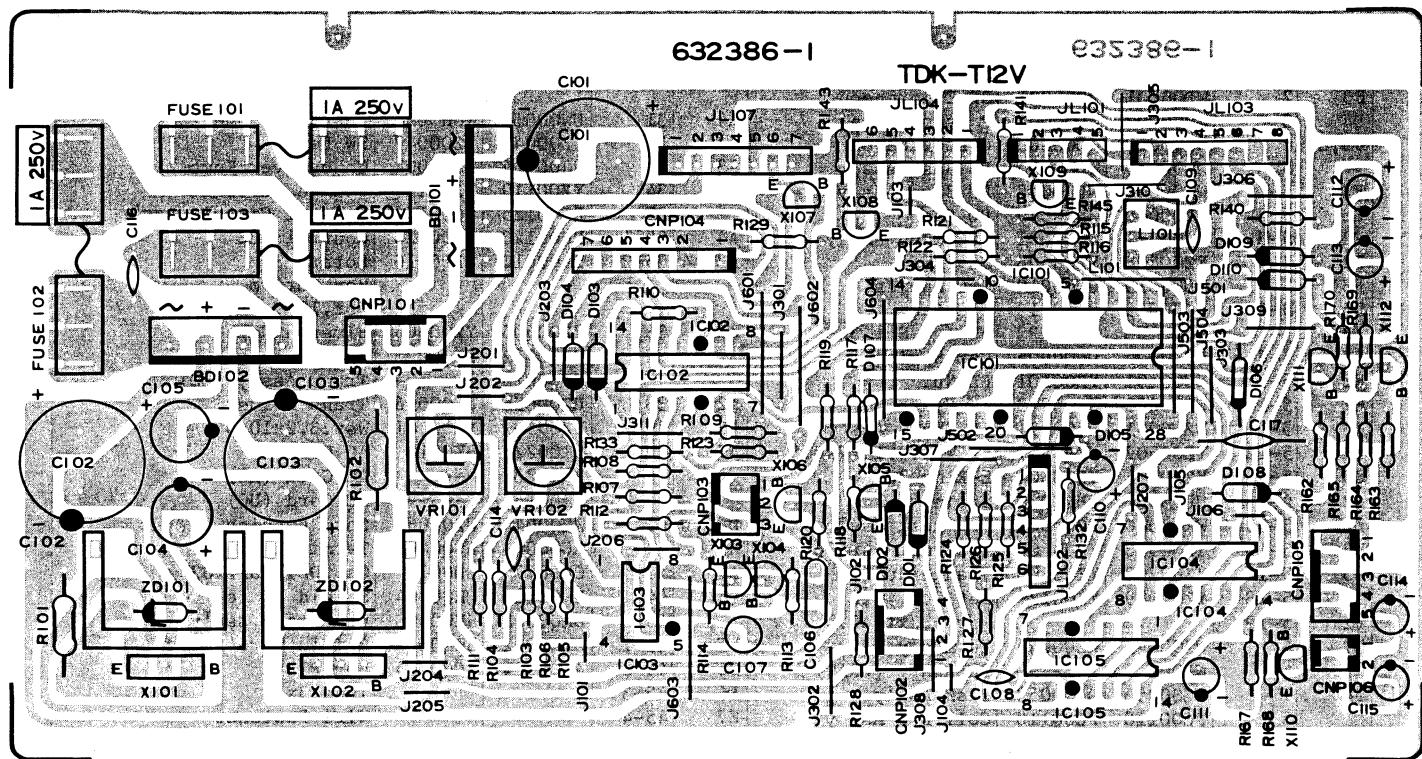
## **Exploded View**



# Explode View Parts List

Index	Symbol No.	PD-291	PX-100	Description	Index	Symbol No.	PD-291	PX-100	Description
		Stock No.	Stock No.				Stock No.	Stock No.	
B3	1	WBQ0007	WBQ0009	Cabinet	A4	30	YZQ0118	-----	Scr.2x18
B3	2	WDQ0001	WDQ0001	SP Escutcheon	A4	31	UWQ0010	-----	Scr.2x18 (UQ)
D4	3	WDQ0002	WDQ0002	P Escutcheon	A3	32	UZQ0047	-----	Insulator Sheet
B3,C4	4	WDQ0003	WDQ0003	C Escutcheon	A3	33	WJQ0004	WJQ0004	SW Lever
	5	WDQ0005	WDQ0005	PU Base Ass'y	A4	34	YZQ0119	YZQ0119	Changeover Knob
F2	5-1	WDQ0048	WDQ0048	PU Base Ass'y 1	A4	35	PCQ0125	PCQ0136D	Flange Scr.3x12
F2	5-2	WDQ0049	WDQ0049	PU Cap	A4	35-1	PCQ0120	PCQ0120	Control Circuit Ass'y
F2	5-3	WJQ0021	WJQ0021	IFC Knob Ass'y	A4	35-2	SRQ0010	SRQ0010	Control PCB
F2	5-4	YZQ0508	YZQ0508	Wave Wsr.	A3,A4	-----	-----	-----	Rotary SW
F3	5-5	UUQ0019	UUQ0019	IFC Spring	A3	36	YZQ0505	YZQ0505	Hex.Nut 7/8
F3	5-6	UQQ0019	UQQ0019	IFC Cam	A2	37	PTQ0022	PTQ0023	Wsr.12x7.2x0.5
F3	5-7	YZQ0133	YZQ0133	Flange Scr.3x8	A2	38	PTQ0023	-----	Himeron Wsr.
E2	5-8	UUQ0005	UUQ0005	Cam Spring	A2	39	UZQ0056	UZQ0056	Trans Ass'y
E2	5-9	YZQ0101	YZQ0101	EL Nut	A7	40	YZQ0501	YZQ0501	Trans Ass'y (UQ)
E2	5-10	WZQ0043	WZQ0043	EL Plate	A2	41	BK0022	BK0018	Trans Holder
E3	5-11	UZQ0051	UZQ0051	EL Shaft Ass'y	A2	42	BK0023	-----	Wsr.3.2x10x0.5
E3	5-12	YZQ0507	YZQ0507	Bs Wsr.3.15x7x0.5	A2	43	BK0018	-----	AC Cord
E3	5-13	YZQ0604	YZQ0604	E-Ring 2/8	A7	44	WZQ0046	WZQ0060	AC Cord (AG)
E3	5-14	UUQ0020	UUQ0020	Spring	A2	45	AGQ0003	AGQ0003	AC Cord (UQ)
D2	5-15	WZQ0040	WZQ0040	Arm Rest Ass'y	A2	46	CU0077	CU0077	Cord Bushing
E3	5-16	YZQ0506	YZQ0506	External Wsr.3/8	E6	44	UKQ0004	UKQ0004	Terminal Plate
E3	5-17	YZQ0703	YZQ0703	Flange Nut 3/8	E6	45	BKQ0008	BKQ0008	Shield Plate
F2	5-18	YZQ0129	YZQ0129	Set Scr.4x10	E7	45-1	BKQ0002	BKQ0002	Lug Plate Ass'y
F2	5-19	-----	-----	Wsr.6.2x12x0.5	E6	45-2	AGQ0004	AGQ0004	Shield Wire Ass'y
F1	6	WZQ0045	WZQ0045	PU Ass'y	F6	45-3	-----	-----	Lug Plate
		WZQ0045A	-----	PU Ass'y (CRAK)	E7	45-4	-----	-----	Tube 3x14
F4	7	UZQ0053	UZQ0053	Disk Ass'y	E6	46	YZQ0502	YZQ0502	Wire Fastener
	8	PCQ0118	PCQ0118	Coil PCB Ass'y	E6	47	YZQ0120	YZQ0120	External Wsr.3/8
F5	8-1	LAQ0045	LAQ0045	Coil	E3	48	UZQ0107	UZQ0107	Scr.3x8
F4	8-2	LAQ0046	LAQ0046	Spool	E3	49	YZQ0130	YZQ0130	Hinge Ass'y
F5	8-3	PCQ0119	PCQ0119	Coil PCB	E3	50	BKQ0010	BKQ0013	Wood Scr.3.1x12
D5	8-4	-----	-----	Connector Ass'y	F4	50-1	ATQ0111	ATQ0113	Pin Jack Ass'y
F6	9	YZQ0128	YZQ0128	Tpg.Scr.3x16	F4	50-2	ASQ0015	ASQ0014	Pin Jack
	10	UZQ0057	UZQ0057	Arm Rotor Ass'y 2	B6	51	WBQ0106	WBQ0106	Connector Ass'y 6
F5	10-1	UZQ0058	UZQ0058	Arm Rotor Ass'y	B7	52	WNQ0003	WNQ0006	Bottom Plate
F6	10-2	YZQ0801	YZQ0801	Eccentric Pin	B6	53	YZQ0131	YZQ0131	Foot
D6	10-3	YZQ0601	YZQ0601	Bow E-Ring 3/8	B7	54	YZQ0132	-----	Bind Scr.4x10
F6	10-4	UZQ0054	UZQ0054	Slit Plate		-----	-----	-----	Flange Tpg.Scr.3x12
F6	10-5	YZQ0602	YZQ0602	Bow E-Ring 10/8		-----	-----	-----	Flange Tpg.Scr.3x16
D5,F5	10-6	YZQ0127	YZQ0127	Hex.Bolt 3x8		55	PCQ0121	PCQ0136	Flange Bolt 3x8
F4	11	UAQ0005	UAQ0005	Sub Chassis Ass'y		PCQ0137	-----	-----	Control Circuit Ass'y
E4	12	YZQ0126	YZQ0126	Tpg.Scr.3x12		PCQ0122	PCQ0136A	Control Circuit Ass'y (UQ)	
A2etc	13	YZQ0702	YZQ0702	Flange Nut 3/8	A5	55-1	PCQ0137A	-----	Control PCB
	14	UZQ0059	UZQ0059	Lifter Mecha.Ass'y	C4	55-2	PCQ0123	PCQ0136B	Control PCB
D5	14-1	UZQ0032	UZQ0032	Sol.Angle Ass'y	C4	55-3	PCQ0137B	-----	Control PCB (UQ)
D5	14-2	UUQ0021	UUQ0021	Coil Spring	C4	55-4	PCQ0124	PCQ0136C	Control PCB
C5	14-3	UZQ0033	UZQ0033	EL Lever	C4	55-5	PCQ0137C	-----	Control PCB (UQ)
C5	14-4	YZQ0603	YZQ0603	E-Ring 2/8	B4	55-5	PCQ0126	PCQ0136E	Control PCB
C5	14-5	AYQ0007	AYQ0007	Solenoid Ass'y	C4	55-6	PCQ0137E	-----	Control PCB (UQ)
D5	14-6	YZQ0125	YZQ0125	Flange Scr.3x4	B4	55-6	PCQ0127	PCQ0136F	Control PCB
D6	14-7	SPQ0026	SPQ0026	Leaf SW Ass'y	D4	55-7	PCQ0137F	-----	Control PCB (UQ)
D6	14-8	YZQ0124	YZQ0124	Scr.3x5	D4	55-6	PCQ0128	PCQ0136G	Control PCB
D6	15	YZQ0122	YZQ0122	Scr.2.6x5	D5	55-7	PCQ0129	PCQ0136H	Control PCB
A5	16	AMQ0008	AMQ0008	Motor DDM-522-QM-40	A3etc	56	YZQ0123	YZQ0123	Control PCB (UQ)
B5	17	UTQ0003	UTQ0003	Motor Column	C4	57	WJQ0003	WJQ0003	Control PCB (UQ)
A5	18	UTQ0004	UTQ0004	Motor Column 1	D4	58	WJQ0002	WJQ0002	Control PCB (UQ)
A5	19	UTQ0005	UTQ0005	Motor Column 2	D2	59	WZQ0302B	WZQ0302B	Control PCB (UQ)
A5	20	YZQ0701	YZQ0701	Hex.Nut 3/8	A1	60	WZQ0206	WZQ0206	Control PCB (UQ)
A5	21	YZQ0504	YZQ0504	Fiver Wsr.3.2x8x1	B2	61	UZQ0052	UZQ0052	Control PCB (UQ)
B5,D4	22	-----	-----	Earth Lead Ass'y	B2	62	WZQ0047	WZQ0047	Control PCB (UQ)
D5	23	UZQ0055	UZQ0055	Sensor Holder	B4	63	YZQ0503	YZQ0503	Control PCB (UQ)
D4,D5	24	YZQ0121	YZQ0121	Tpg.Scr.3x6	E7	64	Non Use	BKQ0009	Control PCB (UQ)
C5,D5	25	YZQ0117	YZQ0117	Tpg.Scr.3x10	B5	65	-----	-----	Control PCB (UQ)
A4	26	UZQ0060	UZQ0110	SW Plate	B5	66	-----	-----	Control PCB (UQ)
A4	27	SPQ0027	SPQ0042	SW Plate (UQ)	B2	67	UTQ0002	UTQ0002	Control PCB (UQ)
A3,C5	28	SPQ0042	-----	Micro SW Ass'y	A2	68	UTQ0011	UTQ0011	Control PCB (UQ)
A4	29	BUQ0005	Non Use	Micro SW Ass'y (UQ)	A1	68	-----	-----	Control PCB (UQ)
				Wire Fastener					Control PCB (UQ)
				Bush					Control PCB (UQ)

# Control PCB(1) Parts List



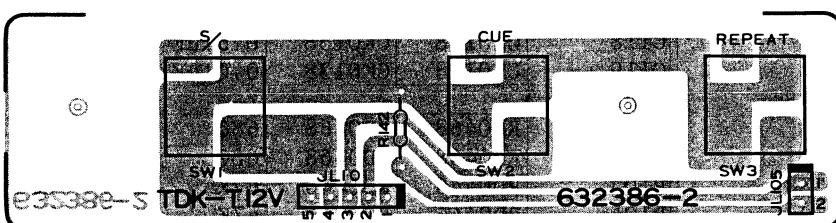
Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(Transistor)</b>			
X101	TRQ5016	TRQ5016	2SD882 Q,P,E
	TRQ5010	TRQ5010	or 2SD612 E,F
X102	TR0256	TR0256	2SB772 Q,P,E
	TRQ3020	TRQ3020	or 2SB632 E,F
X103	TR0194	TR0194	2SD667 C,D
X104	TR0195	TR0195	2SB647 C,D
X105	TR0194	TR0194	2SD667 C,D
X106	TR0194	TR0194	2SD667 C,D
X107	TR0029	TR0029	2SC945 P,Q,K
	TR0198	TR0198	or 2SC1815
X108	TR0029	TR0029	2SC945 P,Q,K
	TR0198	TR0198	or 2SC1815
X109	TR0029	TR0029	2SC945 P,Q,K
	TR0198	TR0198	or 2SC1815
X110	TR0029	TR0029	2SC945 P,Q,K
	TR0198	TR0198	or 2SC1815
X111	Non Use	TR0043	2SA733 Q,P
		TR0087	or 2SA1015
X112	Non Use	TR0043	2SA733 Q,P
		TR0087	or 2SA1015
X123	TR0029	TR0029	2SC945 P,Q,K
	TR0198	TR0198	or 2SC1815

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(IC)</b>			
IC101	TCQ0040	TCQ0040	MP1001
IC102	TCQ0067	TCQ0067	TC4066BP
	TCQ0068	TCQ0068	or HD14066BP
	TCQ0069	TCQ0069	or uPD4066BC
IC103	TC5006	TC5006	uPC4558C
	TC5002	TC5002	or NJM4558D
IC104	TCQ0070	TCQ0070	uPD4081BC
	TCQ0071	TCQ0071	or MSM4081RS
	TCQ0072	TCQ0072	or HD14081BP
	TC5023	TC5023	or TC4081BP
IC105	TCQ0045	TCQ0045	uPD4001BC
	TCQ0073	TCQ0073	or MSM4001RS
	TCQ0074	TCQ0074	or HD14001BP
	TC5004	TC5004	or TC4001BP
<b>(Bridge Diode)</b>			
BD101	TDQ0520	TDQ0520	RB151
BD102	TDQ0520	TDQ0520	RB151
<b>(Zener Diode)</b>			
ZD101	TD5011	TD5011	RD5.6 EB2
	TDQ0223	TDQ0223	or HZ6A-3
ZD102	TD5011	TD5011	RD5.6 EB2
	TDQ0223	TDQ0223	or HZ6A-3

Symbol No	PD-291 Stock No	PX-100 Stock No	Description	Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(Diode)</b>							
D101	TDQ0521	TDQ0521	1S1887	C111	CE0817	CE0817	10uF 16V E1
	TDQ0522	TDQ0522	or F14C	C112	Non Use	CE0850	1uF 50V E1
	TDQ0536	TDQ0536	or EM-1	C113	Non Use	CE0850	1uF 50V E1
D102	TDQ0521	TDQ0521	1S1887	C114	Non Use	CE0817	10uF 16V E1
	TDQ0522	TDQ0522	or F14C	C115	CE0850	CE0850	1uF 50V E1
	TDQ0536	TDQ0536	or EM-1	C116	CK0142	CK0142	0.1uF Ce
D103	TDQ0537	TDQ0537	1SS53	C117	CK0138	CK0138	0.01uF Ce
	TD5012	TD5012	or 1S953	C118	CK0138	CK0138	0.01uF Ce
	TD#0003	TD#0003	or 1S1588	C119	CK0138	CK0138	0.01uF Ce
<b>(Resistor)</b>							
D104	TDQ0537	TDQ0537	1SS53	R101	RD0468	RD0468	680 1/2W Rd
	TD5012	TD5012	or 1S953	R102	RD0468	RD0468	680 1/2W Rd
	TD#003	TD#003	or 1S1588	R103	RD0446	RD0446	47K 1/4W Rd
D105	TDQ0537	TDQ0537	1SS53	R104	RD0446	RD0446	47K 1/4W Rd
	TD5012	TD5012	or 1S953	R105	RD0474	RD0474	220 1/4W Rd
	TD#003	TD#003	or 1S1588	R106	RD0454	RD0454	10K 1/4W Rd
D106	TDQ0537	TDQ0537	1SS53	R107	RD0462	RD0462	2.2K 1/4W Rd
	TD5012	TD5012	or 1S953	R108	RD0466	RD0466	1K 1/4W Rd
	TD#003	TD#003	or 1S1588	R109	RD0450	RD0450	22K 1/4W Rd
D107	TDQ0537	TDQ0537	1SS53	R110	RD0450	RD0450	22K 1/4W Rd
	TD5012	TD5012	or 1S953	R111	RD0466	RD0466	1K 1/4W Rd
	TD#003	TD#003	or 1S1588	R112	RD0456	RD0456	6.8K 1/4W Rd
D108	TDQ0537	TDQ0537	1SS53	R113	RD0430	RD0430	1M 1/4W Rd
	TD5012	TD5012	or 1S953	R114	RD0462	RD0462	2.2K 1/4W Rd
	TD#003	TD#003	or 1S1588	R115	RD0450	RD0450	22K 1/4W Rd
D109	Non Use	TDQ0537	1SS53	R116	RD0450	RD0450	22K 1/4W Rd
		TD5012	or 1S953	R117	RD0462	RD0462	22K 1/4W Rd
		TD#003	or 1S1588	R118	RD0446	RD0446	47K 1/4W Rd
D110	Non Use	TDQ0537	1SS53	R119	RD0458	RD0458	4.7K 1/4W Rd
		TD5012	or 1S953	R120	RD0446	RD0446	47K 1/4W Rd
		TD#003	or 1S1588	R121	RD0450	RD0450	22K 1/4W Rd
				R122	RD0450	RD0450	22K 1/4W Rd
<b>(Fuse)</b>							
Fuse101	BF0205	-----	T400mA-250V	R123	RD0450	RD0450	22K 1/4W Rd
	BF0075	BF0075	1A-250V (UC,UQ)	R124	RD0434	RD0434	470K 1/4W Rd
Fuse102	BF0206	-----	T500mA-250V	R125	RD0434	RD0434	470K 1/4W Rd
Fuse103	BF0075	BF0075	1A-250V (UC,UQ)	R126	RD0434	RD0434	470K 1/4W Rd
	BF0206	-----	T500mA-250V	R127	RD0472	RD0472	330 1/4W Rd
	BF0075	BF0075	1A-250V (UC,UQ)	R128	RD0450	RD0450	22K 1/4W Rd
<b>(Semi-Fixed Resistor)</b>							
VR101	RTQ0024	RTQ0024	10K	R129	RD0450	RD0450	22K 1/4W Rd
VR102	RTQ0025	RTQ0025	5K	R133	RD0450	RD0450	22K 1/4W Rd
<b>(Coil)</b>							
L101	LAQ0028	LAQ0028	BD 509	R141	RD0454	RD0454	10K 1/4W Rd
<b>(Capacitor)</b>							
C101	CE0847	CE0847	1000uF 35V E1	R143	RD0446	RD0446	47K 1/4W Rd
C102	CE0836	CE0836	1000uF 25V E1	R145	RD0450	RD0450	22K 1/4W Rd
C103	CE0836	CE0836	1000uF 25V E1	R146	RD0442	RD0442	100K 1/4W Rd
C104	CE0832	CE0832	100uF 25V E1	R147	RD0456	RD0456	6.8K 1/4W Rd
C105	CE0832	CE0832	100uF 25V E1	R148	RD0460	RD0460	3.3K 1/4W Rd
C106	CQ0424	CQ0424	0.1uF 50V My	R162	Non Use	RD0454	10K 1/4W Rd
C107	CEQ0101	CEQ0101	10uF 25V BP E1	R163	Non Use	RD0454	10K 1/4W Rd
C108	CK0138	CK0138	0.01uF Ce	R164	Non Use	RD0454	10K 1/4W Rd
C109	CK0138	CK0138	0.01uF Ce	R165	Non Use	RD0454	10K 1/4W Rd
C110	CE0853	CE0853	4.7uF 50V E1	R167	RD0454	RD0454	10K 1/4W Rd
				R168	RD0454	RD0454	10K 1/4W Rd
				R169	Non Use	RD0466	1K 1/4W Rd
				R170	Non Use	RD0466	1K 1/4W Rd

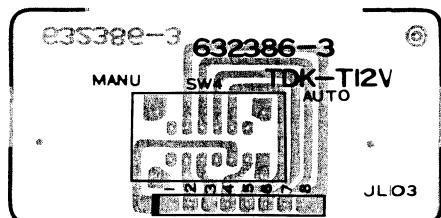
## Control PCB(2)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(Switch)</b>			
SW1	SPQ0025	SPQ0025	Start/Cut
SW2	SPQ0025	SPQ0025	Up/Down
SW3	SPQ0025	SPQ0025	Repeat
<b>(Resistor)</b>			
R142	RD0043	RD0043	1K 1/4W Rd



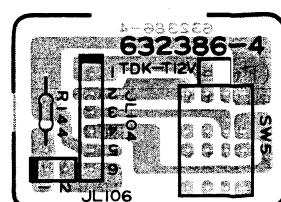
## Control PCB(3)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(Slide Switch)</b>			
SW4	SSQ0002	SSQ0002	Auto/Manual



## Control PCB(4)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(Rotary Switch)</b>			
SW5	SRQ0010	SRQ0010	33/Off/45
<b>(Resistor)</b>			
R144	RD0048	RD0048	470 1/4W Rd



## Control PCB(5)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(LED)</b>			
LD103	TDQ0021	TDQ0021	SWL2310GT (Repeat)



## Control PCB(6)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
<b>(LED)</b>			
LD102	TDQ0021	TDQ0021	SEL2310GT (Quartz Lock)



## Control PCB(7)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
(LED)			
LD101	TDQ0022	TDQ0022	SEL2110S



## Control PCB(8)Parts List

Symbol No	PD-291 Stock No	PX-100 Stock No	Description
(Photo Transistor)			
X120	TRQ0008	TRQ0008	PN120S
X121	TRQ0008	TRQ0008	PN120S
X122	TRQ0008	TRQ0008	PN120S

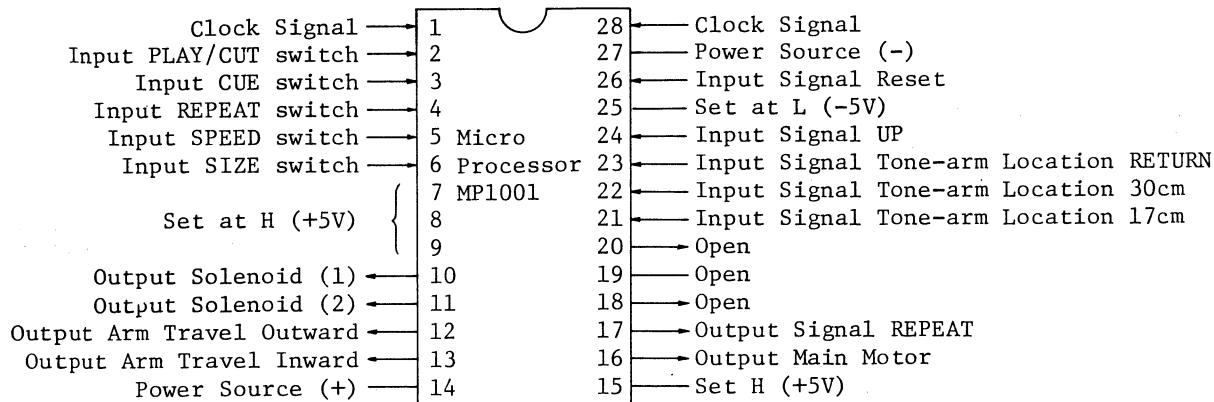


## Destination's Parts List

Symbol No.	Description	PD-291					PX-100	
		BK	AK	CRAK	AG	UQ	UC	UQ
		220V	220V	220V	240V	120V	120V	120V
		France etc	Europe etc	France	England Australia	Canada	U.S.A.	Canada
1	Cabinet	WBQ0007	WBQ0007	WBQ0007	WBQ0007	WBQ0009	WBQ0009	WBQ0009
6	PU Ass'y	WZQ0045	WZQ0045	WZQ0045A	WZQ0045	WZQ0045	WZQ0045	WZQ0045
26	SW, Plate	UZQ0060	UZQ0060	UZQ0060	UZQ0060	UZQ0110	UZQ0110	UZQ0110
27	Micro SW Ass'y	SPQ0027	SPQ0027	SPQ0027	SPQ0027	SPQ0042	SPQ0042	SPQ0042
29	Bush	BUQ0005	BUQ0005	BUQ0005	BUQ0005	BUQ0005	Non Use	Non Use
31	Insulator Sheet	UWQ0010	UWQ0010	UWQ0010	UWQ0010	UWQ0010	Non Use	Non Use
35	Control Circuit Assy	PCQ0125	PCQ0125	PCQ0125	PCQ0125	PCQ0136D	PCQ0136D	PCQ0136D
37	Trans, Assy	PTQ0022	PTQ0022	PTQ0022	PTQ0023	PTQ0023	PTQ0023	PTQ0023
40	AC Cord	BK0022	BK0022	BK0023	BK0018	BK0018	BK0018	BK0018
41	Cord Bushing	WZQ0046	WZQ0046	WZQ0046	WZQ0046	WZQ0060	WZQ0060	WZQ0060
50	Pin Jack Ass'y	BKQ0010	BKQ0010	BKQ0010	BKQ0010	BKQ0013	BKQ0013	BKQ0013
50-1	Pin Jack	ATQ0111	ATQ0111	ATQ0111	ATQ0111	ATQ0113	ATQ0113	ATQ0113
52	Foot	WNQ0003	WNQ0003	WNQ0003	WNQ0003	WNQ0006	WNQ0006	WNQ0006
54	Flange Tpg.Scr.	YZQ0132	YZQ0132	YZQ0132	YZQ0132	PCQ0136	PCQ0136	PCQ0136
55	Control Circuit Assy	PCQ0121	PCQ0121	PCQ0121	PCQ0137	PCQ0136A	PCQ0136A	PCQ0136A
55-1	Control PCB	PCQ0122	PCQ0122	PCQ0122	PCQ0137A	PCQ0136B	PCQ0136B	PCQ0136B
55-2	Control PCB	PCQ0123	PCQ0123	PCQ0123	PCQ0137B	PCQ0136C	PCQ0136C	PCQ0136C
55-3	Control PCB	PCQ0124	PCQ0124	PCQ0124	PCQ0137C	PCQ0136E	PCQ0136E	PCQ0136E
55-4	Control PCB	PCQ0126	PCQ0126	PCQ0126	PCQ0137E	PCQ0136F	PCQ0136F	PCQ0136F
55-5	Control PCB	PCQ0127	PCQ0127	PCQ0127	PCQ0137F	PCQ0136G	PCQ0136G	PCQ0136G
55-6	Control PCB	PCQ0128	PCQ0128	PCQ0128	PCQ0137G	PCQ0136H	PCQ0136H	PCQ0136H
55-7	Control PCB	PCQ0129	PCQ0129	PCQ0129	PCQ0137H	PCQ0136I	PCQ0136I	PCQ0136I
64	Pin Plug Cord	Non Use	Non Use	Non Use	Non Use	BKQ0009	BKQ0009	BKQ0009

# IC Handling Guide

## 1. Pin Location:



All of the terminals are open drain.

## 2. Function of Pins:

- 1) Clock  
Clock input signal of microprocessor and oscillation frequency is about 400KHz.
- 2) Input, PLAY/CUT switching:  
Input level H (+5V) is accepted as PLAY signal at the rest position, also is accepted as CUT signal at position other than rest.
- 3) Input, CUE switching  
Input H (+5V) signal is accepted at UP, DOWN signal by pressing CUE button.  
But signal is interrupted when tone-arm is at the rest position or in motion.
- 4) Input, REPEAT switching:  
Input H (+5V) is accepted at REPEAT ON, or REPEAT OFF signal by pressing repeat button.
- 5) Input, SPEED switching:  
Input H (+5V) is accepted as speed change signal by pressing speed change button.
- 6) Input, SIZE switching:  
Input H (+5V) is read as 30cm (12") and L (-5V) is read as 17cm (7"), but the signal is accepted only when the tone-arm is traveling from the tone-arm rest to lead-in point to start play.
- 7,8,9) No. 7,8 and 9 are optional pins, not used and set at H (+5V).
- 10) Output (1), Solenoid:  
to feed H (+5V) signal for tone-arm down motion, and is opened for tone-arm up motion.
- 11) Output (2), Solenoid:  
To feed H (+5V) signal for only initial 1 sec, for the tone-arm down motion, and it is opened in other mode.

12) Output , Arm Travel Outward:  
To feed H (+5V) signal for outward travel of tone-arm in automatic mode, and also to feed H (+5V) as BRAKE signal to interrupt inward travel of the tone-arm and at tone-arm down motion.

13) Output, Arm Travel Inward:  
To feed H (+5V) signal for inward travel of tone-arm in automatic mode, and also to feed H (+5V) as BRAKE signal to interrupt outward travel of the tone-arm and at tone-arm down motion.

14) Power Source (+):  
+5V is used as 10V power source.

15) No. 15 is optional Pin, not used and the level is set at H (+5V).

16) Output, Main Motor ON/OFF:  
To feed H (+5V) signal when PLAY input is applied and the tone-arm is located other than at the rest position.

17) Output Signal, REPEAT:  
To feed H (+5V) signal for REPEAT ON, and it is opened for REPEAT OFF.

18) No. 18 is optional pin, not used and opened.

19) No. 19 is optional pin, not used and opened.

20) No. 20 is optional pin, not used and opened.

21,22,23) Input signal, Tone-arm Location:  
Same function as 2-1).

24) Input Signal, UP:  
To read completion of tone-arm lift motion by H (+5V) input signal.

25) No. 25 is optional pin, not used and set at L (-5V).

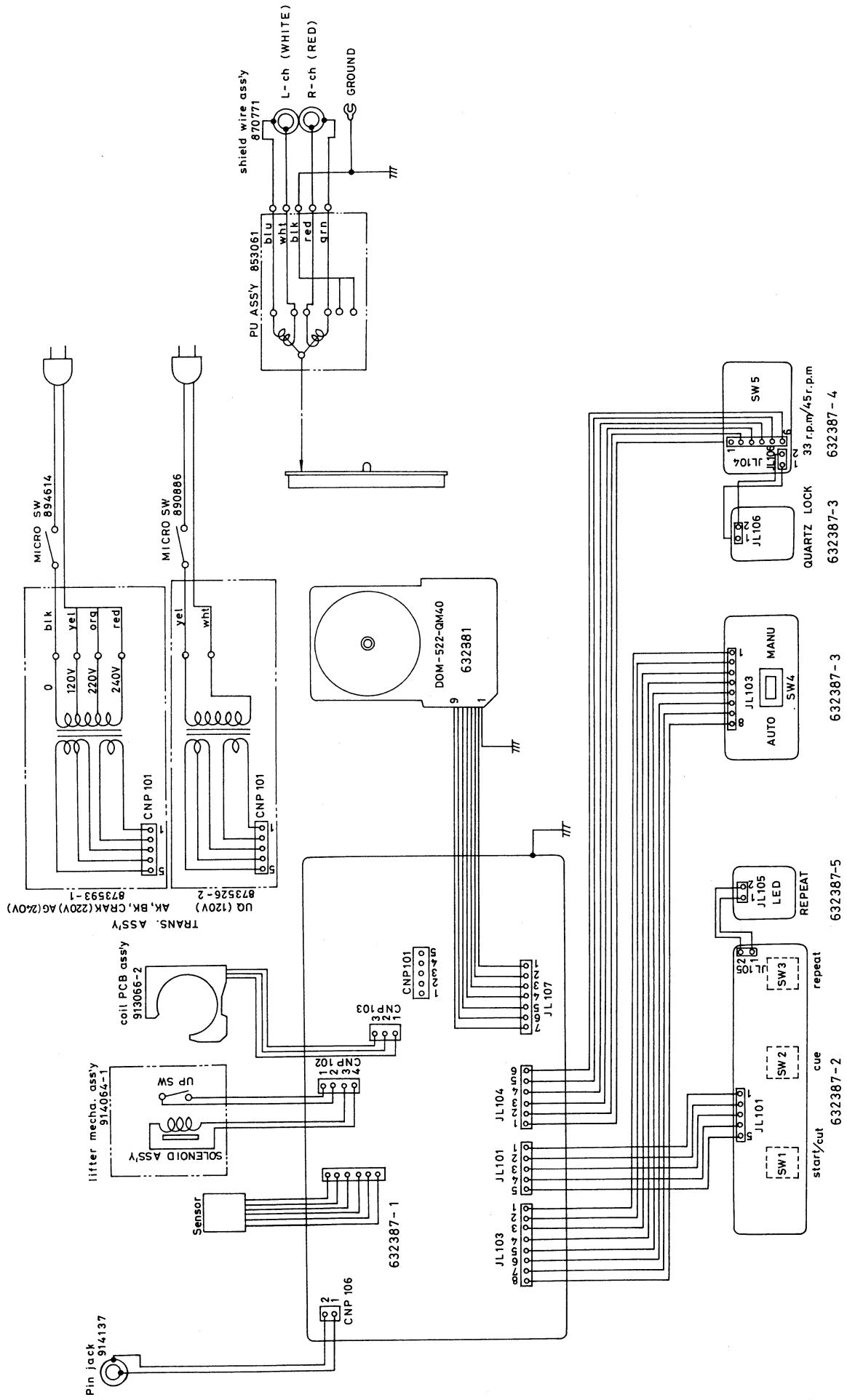
26) Input Signal, Reset:  
To recover output signal to initial level by H (+5V) input signal.  
To reset all modes to initial mode by input signal of H (+5V).  
Initial mode means that the tone-arm is located at the rest position and speed is 33rpm.

27) Power Source (-):  
+5V is used as 10V power source.

28) Clock Signal:  
Clock input signal of microprocessor and oscillation frequency is about 400Hz.

3. Rating:

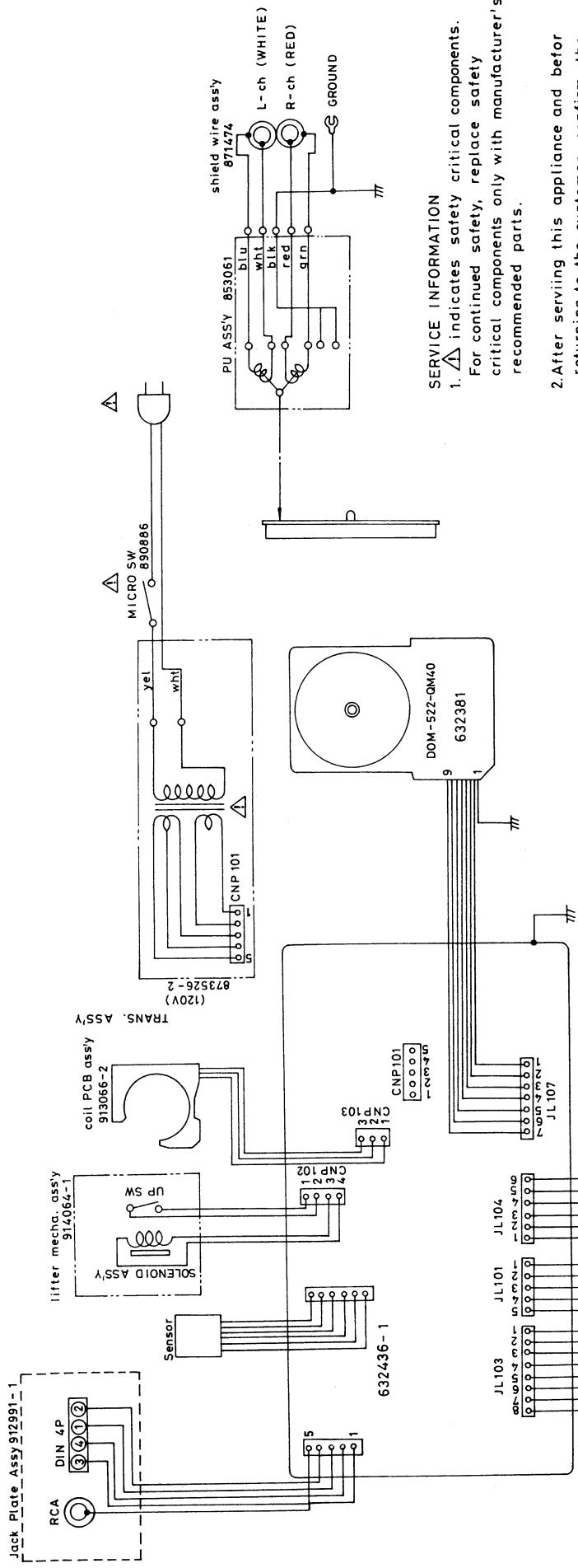
Power Source: 10V  $\pm$  10%  
Input Terminal: H... 8V or More  
L... 5.7V or less  
Output Terminal: Open drain, but provides additional PULL-DOWN resistors to the terminals.



PD-291



Wiring Diagram

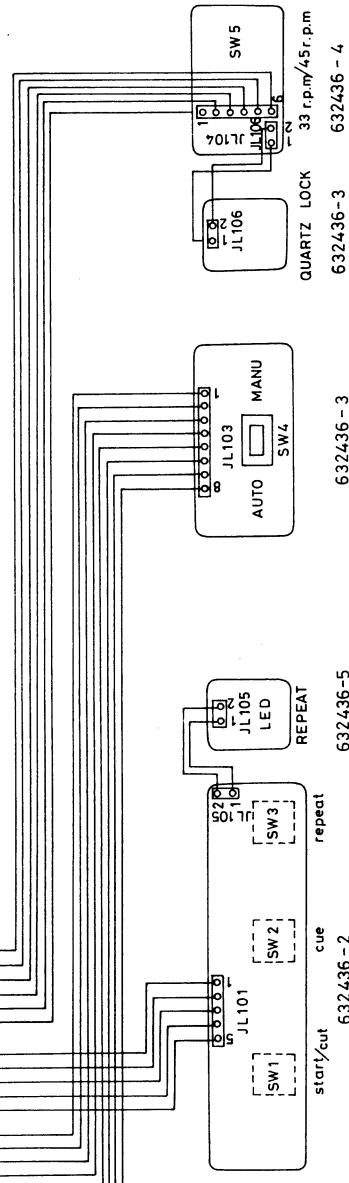


14

**SERVICE INFORMATION**

1.  indicates safety critical components.  
For continued safety, replace safety critical components only with manufacturer's recommended parts.
2. After servicing this appliance and before returning to the customer, confirm the insulation resistance between each blade (or pin) of power cord plug and the spindle or turntable platter is more than 10 Megohms.

2. After servicing this appliance and before returning to the customer, confirm the insulation resistance between each blade (or pin) of power cord plug and the spiral of turntable platter is more than 10 Megohms.

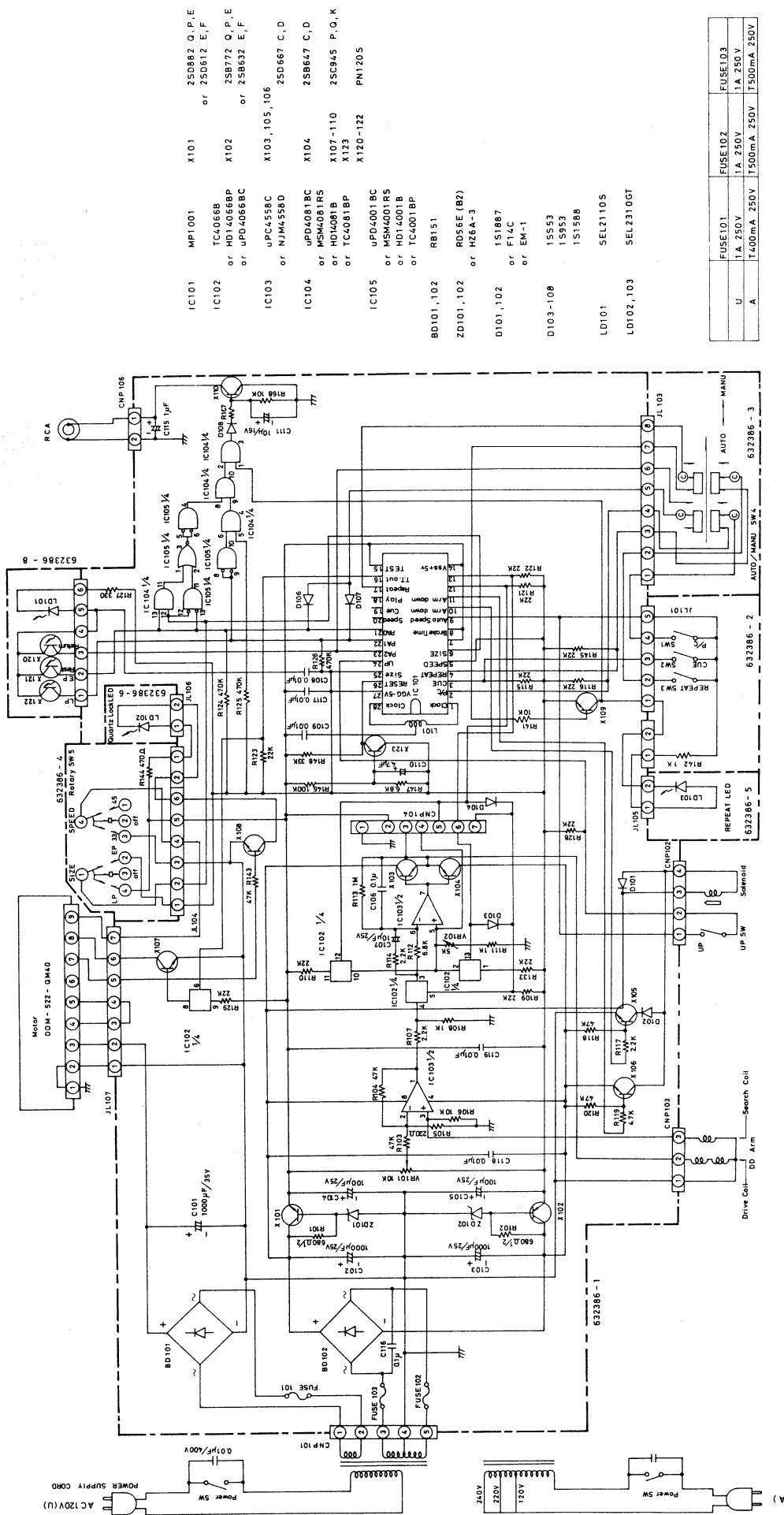


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## Wiring Diagram

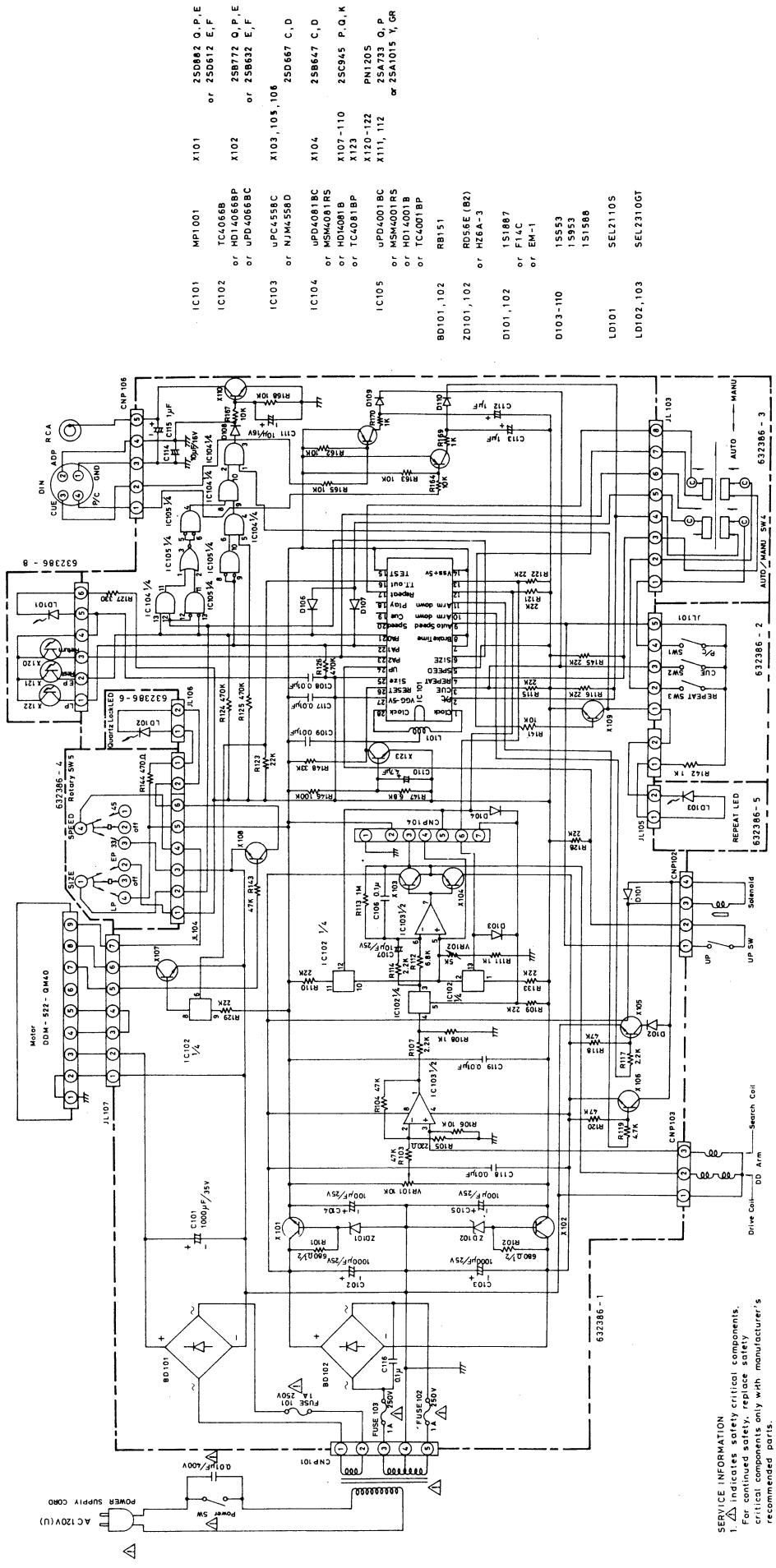
PN201 / PY100

**PD-291**



**Remarks:** Unless otherwise specified, all resistors are in OHM.  
Unless otherwise specified, all capacitors are uF/V.

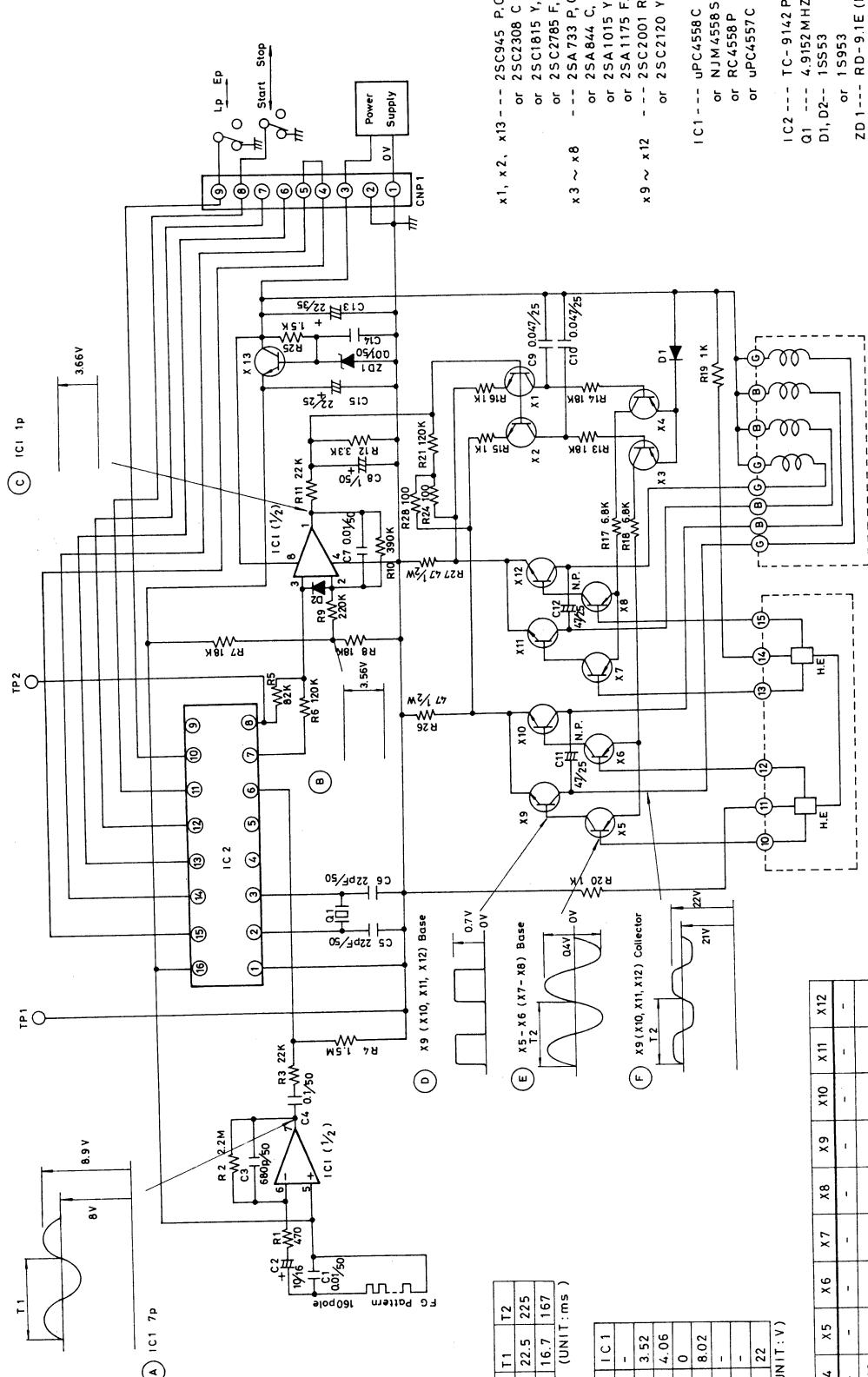
# Schematic Diagram



Remarks: Unless otherwise specified, all resistors are in OHM.  
Unless otherwise specified, all capacitors are  $\mu$ F/V.

**SERVICE INFORMATION**

- Indicates safety critical components.
- For continued safety, replace safety critical components only with manufacturer's recommended parts.
- After servicing this appliance and before returning to the customer, confirm the insulation resistance between each blade (or pins) of power cord plug and the spindle of turntable platter is more than 10 Megohms.



Transistor	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12
Base	-	-	-	-	-	-	-	-	-	-	-	-
Collector	-	-	12.86 13.22	12.86 13.22	-	-	-	-	-	-	-	-
Emitter	0.08 0.1	0.08 0.1	21.48	21.48	12.40 12.78	12.40 12.78	0.08 0.1	0.08 0.1	0.08 0.1	0.08 0.1	0.08 0.1	0.08 0.1

Transistor	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12
Base	-	-	-	-	-	-	-	-	-	-	-	-
Collector	-	-	12.86 13.22	12.86 13.22	-	-	-	-	-	-	-	-
Emitter	0.08 0.1	0.08 0.1	21.48	21.48	12.40 12.78	12.40 12.78	0.08 0.1	0.08 0.1	0.08 0.1	0.08 0.1	0.08 0.1	0.08 0.1

Remarks: Unless otherwise specified, all resistors are in OHM.  
Unless otherwise specified, all capacitors are uF/V.

## Motor Circuit

**PD-291, PX-100**

IC1 - TC-9142 P  
Q1 - 4.9152 MHZ  
D1, D2 - 1SS53  
or 1S953  
ZD 1 --- RD-9.1E (B1)

IC2 - - - TC-9142 P  
Q1 - - - 4.9152 MHZ  
D1, D2 - - - 1SS53  
or 1S953  
ZD 1 --- RD-9.1E (B1)

# Specifications

## [PHONO MOTOR SECTION]

Drive System:	Direct Drive System
Motor:	Brushless & Slotless DC Servo Quartz Locked Motor
Turtable Platter:	30cm Aluminum Die-Cast (weight 1.6kgs including platter mat)
Rotation:	33-1/3rpm, 45rpm (2-Speed)
S/N Ratio:	Better Than 70dB (DIN-B)
Wow & Flutter:	No More Than 0.03% W.R.M.S.

## [TONEARM SECTION]

Tonearm:	Straight Arm of Static Balance Type
Effective Length:	214mm
Tracking Error:	+3 02°, -1 34°
Overhang:	15mm
Cartridge Weight:	4g-10.5g
Stylus Pressure:	0-3g (Direct Reading)
Accessories:	Anti-Skate Adjustment

## [ADDITIONAL FEATURES]

Dust Cover:	Detachable with semi-free-stop hinge
Quartz-Lock Indicator	
Automatic Function:	Auto-Lead-In (Auto Start), Auto-Repeat, Start/Cut Button

## [GENERAL]

Power Consumption:	9W
Dimensions:	440(W)x148(H)x360(D)mm (17.6")x(5.9")x(14.4")
Weight:	Net 6.5kg (14.3lbs) Gross 8kg (17.6lbs)

Specifications and appearance design subject to change without notice.

P0291/PX100



**LUX CORPORATION, JAPAN**

1-1, 1-CHOME, SHINSENI-NISHIMACHI, TOYONAKA-SHI, OSAKA 565  
PHONE 06-834-0004 CABLE LUXMAN TOYONAKA TELEX 5287106 LUXELE J